APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,197	03/15/2001	Terence G Hodgkinson	36-1437	6234

7590 08/26/2004	EXAMINER
Nixon & Vanderhye 1100 North Glebe Road 8th Floor Arlington, VA 22201-4714	PHAN, TRI H

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/787,197		HODGKINSON ET AL.
	Examiner		Art Unit
	Tri H. Phan		2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Drawings

2.   The drawings are objected to because all blocks in Figures 1-3 should be labeled

with descriptive legends based on 37 C.F.R. § 1.84(o) for supporting the objection in the

Rules and M.P.E.P. A proposed drawing correction or corrected drawings are required in

reply to the Office action to avoid abandonment of the application. The objection to the

drawings will not be held in abeyance.

Claim Objections

3.   The dependent claim 12 is not arranged in a higher sequence order with its parent

claim, e.g. claim 13.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention, because the subject matter of independent claim

1 (or claim 7) is not consistent with claim 13; which leaves a doubt as to the scope of

protection sought.

Regarding claim 1, the preferential forwarding at the network node is obtained by

choosing between two output buffer elements with different bandwidth allocations over

the output channel, but there is no mention of data packet identifiers. On the contrary in

corresponding apparatus claim 13, the preferential forwarding is mentioned using data

packet identifiers, whereas there is no mention of network node output buffers.

The set of claims should be rewritten in order to allow consistency between

independent method claim(s) and independent apparatus claim(s).

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7.   Claims 1, 7 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by

Carter et al. (U.S.6,538,989).

- In regard to claims 1, 7 and 13, **Carter** discloses in Figs. 1A-D, 2A-C, 4-6B and

in the respective portions of the specification about system and method for providing

with dual packet buffers (*"first and second buffer elements"*; wherein the first and second

buffers share on the output bandwidth as disclosed in col. 2, line 61 through col. 3, line 9;

col. 6, lines 24-30) associated with bounded delay and best effort classes of service or

operation, through the use of the connection admission control 'CAC' in the packet

network ("*communication network*"); where the sending host ("*server computer*") and

receiving host ("*client computer*") are connected by means of network elements

("*network node*") and interconnecting links (For example see Figs. 2A-C; col. 4, line 61

through col. 5, line 5); and the application running on the sender produces packet streams

or flows and transmits with particular Quality of Service requirement 'QoS' to the

bounded delay or best effort buffer of the network element ("*transmitting data from the*

server to the client using first buffer element of the network node"; For example see Figs.

1A-D; 2A-C; col. 5, lines 13-16; col. 13, lines 1-10) and using the second packet buffers

'best effort' to store and transmit the bounded delay packets to the first packet buffer

("*using second buffer element of the network node for transmitting data from the server*

to the client"; For example Figs. 1A-D; col. 3, lines 48-55; col. 5, lines 43-49) due to the

refused admission of the CAC or request from user ("*control signal*"; For example see

col. 10, lines 33-48; col. 15, lines 4-11). **Carter** further discloses about the packet

identifier ("*first identifier*") and mode identifier ("*second identifier*") applying in the 'On

the Fly' signaling (For example see Fig. 4; col. 15, lines 30-67) as in claim 13 of the

claimed invention.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims XX-XX are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chang et al. (U.S.5,367,523) in view of **Pyhälammi et al.** (WO 94/14263).

- In regard to claims 1 and 7, **Chang** discloses in Figs. 1-9 and in the respective

portions of the specification about the system and method for an end-to-end, closed loop,

distributed control mechanisms by implementing flow and congestion control for sender

endnodes (*"server computer"*), receiver endnodes (*"server computer"*) and network nodes

(*"network node"*) in the packet communications systems (*"communications network"*) via

the shared bandwidth (*"transmitting data from the server computer to the client computer*

through the network node"; For example see Figs. 1-2; Abstract; col. 1, lines 14-26) with

different required Classes of Service 'COSs' or Quality of Service 'QoSs' for real time

and non-real time signals (For example see col. 6, lines 21-60; it is obvious that different

queues are provided for different classes or quality of services); wherein the sender

requests and uses the response traffic feedback information received from the receiver

(*"receiving the first control signal from client computer"*) due to the congestion, e.g.

overflow, to set the different operation mode such as 'green', 'yellow' or 'red' operating

mode for transmitting data to the receiver (For example see Figs. 5-8; col. 2, line 54

through col. 3, line 30; col. 8, lines 3-38), but fails to explicitly disclose about using

different buffers, e.g. *"second buffer elements"*, whenever receiving the response traffic

feedback information based on the overflow or congestion from the receiver. However,

such implementation is known in the art.

For example, **Pyhälammi** discloses in Figs. 1-8 and in the respective portions of the specification about the congestion management system and method in the FR network, e.g. packet-switched network (*"communications network"*), for reducing the level of service according to delay and throughput probability through service class specific buffers; wherein the network node (*"network node"*; For example see Figs. 2 and 7) classifies the input data into different priority class buffers (*"first buffer elements"*; For example see Figs. 4, 6 and 8; page 8, line 31 through page 9, line 26; page 11, lines 1-9); and, based on the forward or backward congestion notification (*"receiving the first control signal"*; For example see Fig. 7), the network node adjusts the transmission rate (For example see page 12, lines 19-29) or reduces the amount of traffic transmission by buffering the traffic into virtual-channel-specific buffers (*"second buffer elements"*; For example see Figs. 6 and 8; page 11, line 30 through page 12, line 18; page 13, lines 2-24).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the invention as taught by **Pyhälammi**, by using specific buffers as *"second buffer elements"*, at the network node to reduce the traffic transmission through the network into the **Chang**'s queuing system, with the motivation being to improve the ability to reduce the level of service through service class specific buffers in order to optimize the transmission traffic as disclosed in **Chang**: col. 6, lines 50-60; and rapid responding due to the network congestion as disclosed in the abstract of **Pyhälammi**.

- Regarding claims 2 and 8, **Chang** further discloses about the other rate request from the sending endnode and other response messages from the receiving endnode

("*second control signal*") over the interval time lines (For example see Fig. 3; col. 8, lines 39-66) in determining the network node's operating mode (For example see col. 3, lines 38-46; col. 8, lines 3-38).

Pyhälammi also discloses about the monitoring and adjusting the traffic amount due to the congestion (For example see page 12, lines 11-29) or based on the Discard Eligibility Indicator 'DE' (For example see page 10, lines 12-29; Fig. 5; page 8, lines 6-21).

- In regard to claims 3-4 and 9-10, **Chang** further discloses about the 'piggybacking' rate response message from the receiving endnode ("*first and second control signals generated by the client computer*"; For example see Figs. 2-3; col. 8; lines 13-24, 39-66) to the sending endnode due to the overloading in the receiving user's capacity ("*client computer data cache*"; For example see col. 8, lines 13-24; col. 13, lines 38-51) between the receive data and the sensitivity threshold ("*first and second threshold values*"; For example see col. 3, lines 12-30; Fig. 4; col. 10, lines 8-28) in determining the operation mode such as 'GREEN' or 'YELLOW' mode.

- Regarding to claims 5 and 11, the combination of **Chang** and **Pyhälammi** further discloses about the plurality of network nodes ("*network nodes*"; For example see **Chang**: Figs. 1-2 and **Pyhälammi**: Figs. 2 and 7) between end nodes, wherein the use of the service class specific buffers in the network node is based on the forward and backward congestion notifications ("*selection of buffer elements in response to the control signal*"; For example see Figs. 6 and 8: page 13, lines 2-24).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the invention as taught by **Pyhälammi**, by using specific buffers as *"second buffer elements"*, at the network node to reduce the traffic transmission through the network into the **Chang**'s queuing system, with the motivation being to improve the ability to reduce the level of service through service class specific buffers in order to optimize the transmission traffic as disclosed in **Chang**: col. 6, lines 50-60; and rapid responding due to the network congestion as disclosed in the abstract of **Pyhälammi**.

- In regard to claim 6, **Chang** further discloses about the program code for carrying out the dynamic flow and congestion control mechanism (*"computer executable code for loading into the computer"*; For example see col. 11, lines 11-24).

- Regarding claim 13, **Chang** discloses in Figs. 1-9 and in the respective portions of the specification about the system and method for an end-to-end, closed loop, distributed control mechanisms by implementing flow and congestion control for sender endnodes (*"server computer"*), receiver endnodes (*"server computer"*) and network nodes (*"network node"*) in the packet communications systems (*"communications network"*) via the shared bandwidth (*"transmitting data from the server computer to the client computer through the network node"*; For example see Figs. 1-2; Abstract; col. 1, lines 14-26) with different required Classes of Service 'COSs' or Quality of Service 'QoSs' for real time and non-real time signals (For example see col. 6, lines 21-60; it is obvious that different queues are provided for different classes or quality of services); wherein the sender

requests and uses the response traffic feedback information received from the receiver

("*receiving the first control signal from client computer*") due to the congestion, e.g.

overflow, to set the different operation mode such as 'green', 'yellow' or 'red' operating

mode for transmitting data to the receiver (For example see Figs. 5-8; col. 2, line 54

through col. 3, line 30; col. 8, lines 3-38). **Chang** does disclose about the reducing rate in

the red mode operation (For example see col. 11, lines 3-10), but fails to explicitly

disclose about using "*first and second identifier*" to enable or disable the forwarding data

packets at the network node. However, such implementation is known in the art.

For example, **Pyhälammi** discloses in Figs. 1-8 and in the respective portions of

the specification about the congestion management system and method in the FR

network, e.g. packet-switched network ("*communications network*"), for reducing the

level of service according to delay and throughput probability through service class

specific buffers; wherein the network node ("*network node*"; For example see Figs. 2 and

7) classifies the input data into different priority class buffers; and, based on the forward

or backward congestion notification ("*receiving the first control signal*"; For example see

Fig. 7), the network node monitors and adjusts the traffic amount, by setting the Discard

Eligibility Indicator 'DE' bit in the data link connection identifier 'DLCI' to '0' ("*first

identifier for enabling forwarding data*") or '1' for discarding the frame under congestion

conditions ("*second identifier for disabling forwarding data*"; For example see page 10,

lines 12-29; Fig. 5; page 8, lines 6-21).

Thus it would have been obvious to the person of ordinary skill in the art at the

time of the invention was made to implement the invention as taught by **Pyhälammi**, by

using indicator such as the Discard Eligibility Indicator for forwarding/discarding the

frame under congestion conditions into the **Chang**'s piggy-backing response message, with the motivation being to improve the ability to optimize the transmission traffic due to congestion as disclosed in **Chang**: col. 6, lines 50-60; or rapid responding due to the network congestion as disclosed in the abstract of **Pyhälammi**.

       - In regard to claims 12 and 14, **Chang** further does disclose about the other rate request from the sending endnode and other response messages from the receiving endnode (*"second control signal"*) over the interval time lines (For example see Fig. 3; col. 8, lines 39-66) in determining the network node's operating mode (For example see col. 3, lines 38-46; col. 8, lines 3-38) due to congestion by using the program code for carrying out the dynamic flow and congestion control mechanism (*"computer executable code for loading into the computer"*; For example see col. 11, lines 11-24) as in claim 12 of the claimed invention, but fails to disclose about the *"identifier"* for re-enabling the forwarding data. However, such implementation is known in the art.

       For example, **Pyhälammi** discloses about the setting the Discard Eligibility Indicator 'DE' bit in the data link connection identifier 'DLCI' to '0' (*"first identifier for enabling forwarding data"*; For example see page 5, lines 6-21).

       Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the invention as taught by **Pyhälammi**, by using indicator such as the Discard Eligibility Indicator for forwarding/discarding the frame under congestion conditions into the **Chang**'s piggy-backing response message, with the motivation being to improve the ability to optimize the transmission traffic due

to congestion as disclosed in **Chang**: col. 6, lines 50-60; or rapid responding due to the

network congestion as disclosed in the abstract of **Pyhälammi**.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        Fluss (U.S.6,304,578), **Tani et al.** (U.S.5,809,078), **Davie** (U.S.6,320,845) and

Morris (U.S.6,418,474) are all cited to show devices and methods for improving the

traffic management and flow control in the telecommunication architectures, which are

considered pertinent to the claimed invention.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tri H. Phan, whose telephone number is (703) 305-7444.

The examiner can normally be reached on M-F (8:00-4:30).

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Douglas W. Olms can be reached on (703) 305-4703.

        Any response to this action should be mailed to:

    Commissioner of Patents and Trademarks
        Washington, D.C. 20231

or faxed to:

        (703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office,

whose telephone number is (703) 305-3900.

Tri H. Phan   DANG TON
August 17, 2004   PRIMARY EXAMINER